



COMMUNICATIONS THEORY

Winter Training
2003



OBJECTIVES



- Know the different methods of voice communication aboard the Navy 44.
- Know when each method of communication is used.
- Understand how each method works.
- Understand the procedures used during summer cruise.
- Hailing procedures.



REFERENCES



- Chapman Piloting – CH 24 Communications
- Passage Making – CH 7 Communications
- Fundamentals of Naval Science – CH 6
Radiotelephone
- Radio Telephone Users Guide- RUTH Manual
- Reed's Nautical Almanac
- Tech manual





HF COMMS



HF communications have both ground waves and sky waves (LOS not required). HF can travel thousands of miles due to RF signal bouncing off the atmosphere.



HF COMMS



- Used for long distance ship to ship or ship to shore communications.
- Navy 44 has SEA 222 SSB radiotelephone.
- HF circuits are either DUPLEX or SIMPLEX
 - DUPLEX – separate transmit and receive frequencies.
 - SIMPLEX – same transmit and receive frequencies.
- What is the maximum range for HF communications?



HF COMMS



- What factors effect the range of HF?
 - Atmospheric conditions (weather)
 - Skip zones
 - Time of day
 - Frequency used



HF COMMS



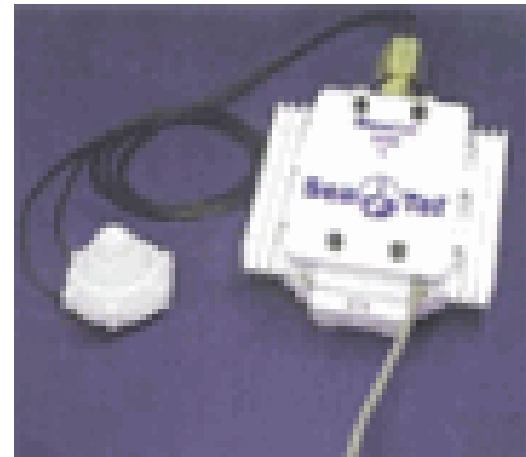
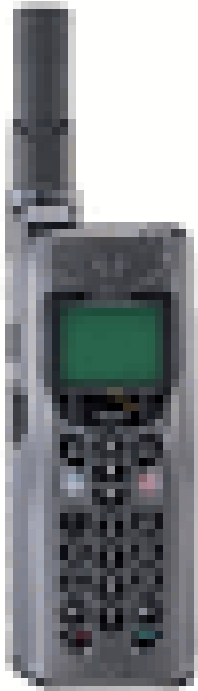
- Which frequency do you chose?
 - Rule of Thumb – frequency follows the sun – higher the sun in the sky, higher the frequency.
 - Appendix II of Annex A of the OPORD has the Communications Plan which lists all the frequencies and times for HF voice.
 - 4,6,8,12 MHz



NATIXS



- SYSTEM REPLACED BY SAT PHONES (type TBD)





EPIRB



- Satellite 406 EPIRB\
 - Transmits signals at 121.5 and 406 MHz.
 - Used only for emergency situations – turning it on will activate the USCG's emergency rescue system.
 - Once the EPIRB is activated for an emergency, do not turn it off.
 - OIC Signature item (\$500-\$1000)





VHF COMMS



VHF antennas require LOS



VHF COMMS



- ICOM M100 (NA 1–8) or M120 (NA 9–20)
- ICOM M-3A/Standard HX460S Handheld
- Line of sight (LOS) communications.
- Used for:
 - Ship to ship
 - Ship to shore (w/in sight of land)
 - Local weather



VHF COMMS



- ICOM radios have ability to store channels in memory and scan channels.
 - At beginning of cruise, verify the desired channels in memory:
 - 13, 16, 82A, squad. Channel (also CH 9 on the bay)
 - While underway, scan those channels using memory scan feature.



MARITEL



- Marine Telephone service
- Basic procedure – you call the Maritel operator on VHF:
 - Give the operator the account number and the phone number you want to call.
 - Maritel operator will patch your call through for you.
- Account data and information sheet given to OTCs prior to cruise.
 - Information sheet contains the different Maritel stations and the VHF channels they monitor. (i.e. Ocean City)



MARITEL



- East Coast Service Locations & VHF stations:
 - Nantucket 85
 - Cape May 24
 - Atlantic City 26
 - Baltimore 25,26
 - Cambridge 28
 - Ocean City 26
 - Point Lookout 26



COMM PROCEDURES



- Appendix C of Annex A to the summer OPOD defines communications and reporting procedures for summer cruise.
- Daily reports:
 - When underway, the OTC shall make a daily report by the following methods:
 - MARITEL/SATPHONE between 0730 – 0830
 - HF Voice from 0830 – 0930



COMM PROCEDURES



- If morning comm check is not successful, an afternoon comm check is required between 1630-1730.
- Situation reports (SITREP) are to be made on an as-needed basis.
- Making reports in port:
 - Daily phone report
 - SITREP if Required



SAFETY MESSAGES



- SECURITE – third priority messages (Routine) concerning navigation or weather.
- PAN PAN – second priority urgent (Immediate) communications concerning the safety of a ship, aircraft, other vessel or person in sight or on board.
- MAYDAY – absolute first priority (Flash) distress calls involving imminent danger of loss of life or vessel.



HAILING MERCHANTS



TOO LATE!!



HAILING MERCHANTS



- When do you hail a merchant?
- How do you hail a merchant?



HAILING MERCHANTS



- When do you hail a merchant –
 - Whenever you think the pilot on the bridge of the merchant would like to know your intentions.
 - When you want to know the intentions of the merchant vessel.
 - Definitely call when:
 - Entering a traffic scheme with traffic visible
 - Crossing a channel with traffic visible
 - Crossing the bow of a merchant
 - You are unsure about the intentions of the merchant



HAILING MERCHANTS



- When hailing merchants, ensure you identify who you are and the specific vessel you are calling.
 - **NOT:** “Merchant vessel in Chesapeake Bay, this is sailing vessel...”
- Identifying merchants:
 - Name the type of vessel (tanker, car-carrier, etc.) or the color of the vessel
 - Give reference to landmark (Bloody Pt, Cove Pt)
 - Give merchant’s course (northbound or southbound)
 - Give merchant’s approximate LAT/LONG (last resort)



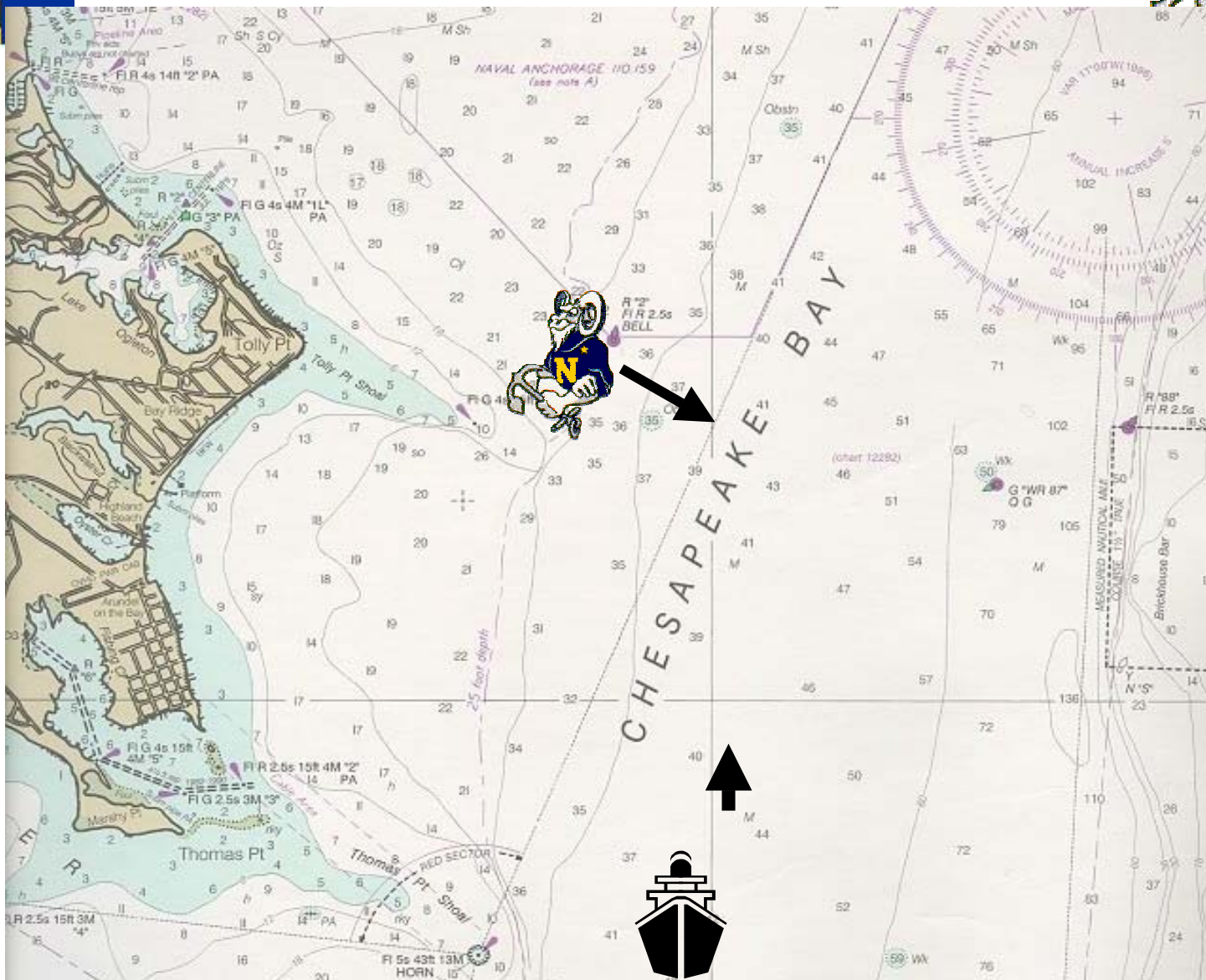
HAILING MERCHANTS



- Identifying yourself:
 - Give your position relative to a landmark and the merchant.
 - Give your course.
 - Give your description (blue hulled sailing vessel)
 - Tell them your lighting configuration
- Clearly state your intentions (**Stay out of their way!**)
- Do not cross the bow of tug and tow without first contacting the tug via VHF.



HAILING MERCHANTS PRACTICAL







HAILING MERCHANTS



- Northbound blue-hulled tanker abeam of Thomas Point, this is the blue hulled sailing vessel *Challenger*, off your port bow, east of Tolly Point, CH 13, over.
- *Challenger*, this is *Rusty Bucket*, roger over.
- This is *Challenger*, good afternoon Captain, I intend to continue south and pass down your port side and pass astern of you, over.
- This is *Rusty Bucket*, roger Captain, thank you and have a nice sail, OUT.
- This is *Challenger*, roger out.